

The FINGERPRINT Project: From Drawing to Printed Line The Art-Technical Genesis of Pieter Bruegel's Graphic Oeuvre

FINGERPRINT (Innovative Visual Data Management for Drawings and Prints) is an interdisciplinary project, involving art history, art technical research, digital imaging, image processing, conservation science and collection and data management. The aim is to use advanced digital imaging, statistical processing and laboratory analyses to monitor and evaluate the phases of the genesis of a print, from the unique preparatory drawings through proof impressions to later states and editions. Up to now art historical research on prints and drawings has depended for the most part on traditional art historical methods based on observation with the naked eye and on the subjective memory and knowledge of connoisseurs. The main goal of this project is to develop tools to automatically perform an objective artefact analysis and software to visualize, compare and order large quantities of complex visual and material data.

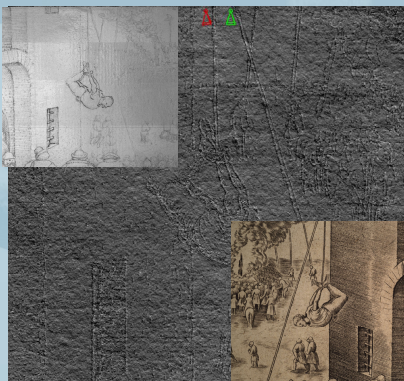
With the 450 year anniversary of the passing of Pieter Bruegel the Elder in 2019, the project focus on the known corpus of drawings and prints by the artist.



Justitia by Pieter Bruegel: upper part [naam camera], lower part IRR.

THE CONCEPTION OF A PRINT DESIGN

The group of drawings attributed to Pieter Bruegel is diverse. Some served only as a sketch, others as a standalone product and yet others as a design for prints. This not only translates into a different appearance of the drawing, but also in a difference in methods and techniques which the artist has applied. Using, among other things, infrared reflectology and XRF mapping, the FINGERPRINT project explores whether these working processes of Bruegel can be more accurately mapped. Without damaging the drawings, the differences in inks can be investigated. This allows us to reconstruct the structure of the drawing. It can for example be determined whether or not the artist initiated his or her project with an underdrawing. Also, a clearer picture is generated of the various corrections Bruegel performed to complete his drawing.



2D+ image by the microdome of the hangman (detail of Bruegel's Justitia by Pieter Bruegel).

TRACING BRUEGEL. DIFFERENT METHODS OF TRANSFER

Our current knowledge of the techniques used to transfer print designs onto the copper plate is mostly based on early 17th century treatises. However, these instructions date from half a century after Bruegel's productive period. The question is, therefore, whether these were also used by 16th century engravers. Since the process of transferring left specific traces on the drawings, one is able to document the characteristics of the paper surface. A Microdome, which was developed at Leuven University (Belgium), uses the technique of polynomial texture mapping, also known as Reflectance Transformation Imaging (RTI), a method of imaging and interactively displaying objects under varying lighting conditions to reveal surface phenomena. Consisting of a camera of 28 million pixels, the instrument digitizes the objects with omnimulti-directional lighting and export the result to 2D+. This enables us to map the specific working methods of the 16th century engravers and compare them in a more standardized manner.

BRUEGEL IN ALL STATES

After the death of Hieronymus Cock, the copper plates for the Bruegel prints were further used by Volcxken Diericx (approx. 1525-1600). When she passed away, the printing plates found their way to other European printing centers through the public sale of her estate. Some compositions were printed over several centuries, though it is not always clear where and by whom. The wear of the plates, the changing the owner and/or the evolution of public taste, often caused copper plates to be subtly altered with minor adjustments. These minor differences in prints usually serve as an indication of the edition history. By enhancing the view of the connoisseur with highly detailed images of a print and by classifying the watermarks in a more standardized manner, the FINGERPRINT team further tries to map the trajectory of the copper plates.



Details of the first and newly discovered second state of Bruegel's Alpine landscape.

FINGERPRINT Project

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Print Room

KU Leuven, Belgium

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